



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,345	08/22/2003	Herwig Assler	4547	8352
21553	7590	12/22/2005	EXAMINER	
FASSE PATENT ATTORNEYS, P.A.			RADI, JOHN A	
P.O. BOX 726			ART UNIT	PAPER NUMBER
HAMPDEN, ME 04444-0726			3641	

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,345

Applicant(s)

ASSLER ET AL.

Examiner

John A. Radi

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7-16 is/are rejected.
- 7) ☒ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection based on the revised claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blondin (US1775386) further in view of Schijve et al (US 4500589).

With respect to claim 1, 10-16, Blondin teaches lightweight, laminated structure (pg 2 line 23, pg 3 line 10), made of thin plies (10-15) comprising a surface that is uninterrupted throughout its area (pg 2, line 85 – skeleton is encased in celotex), wherein the lattice framework and the uninterrupted surface are in parallel planes to each other (see figure 1) and an adhesive bond is between the uninterrupted surface and the lattice (pg 3 line 10).

Blondin does not teach the use of sheet metals to form the laminations, but is open to the use of alternative materials provided they can be "mutually glued, cemented, welded or otherwise attached ... throughout their mutually contacting surfaces." (pg 3, line 15). Schijve et al. teaches the use of sheet metal to build up a lightweight laminated structure (abstract). Therefore, it would have been obvious to one

Art Unit: 3641

having ordinary skill in the art at the time the invention was made to build the lattice laminate structure of Blondin out of sheet metal, since it has been held to within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (*In re Leshin*, 125 USPQ 416).

With respect to claim 2, wherein the uninterrupted surface is composed to two uninterrupted sheet metal components bonded together in addition to bonding to the lattice work. Blondin discloses the claimed invention except for the 2 uninterrupted layers instead of one. Schijve teaches the creation of a ply structure of two or more uninterrupted surfaces (2), bonded together. Schijve provides the motivation for bonding several layers of sheet metal for use in space or aircraft to obtain a saving on overall weight of the construction and partly in view to safety as far as crack formation is concerned (col. 2 line 63). Therefore it would have been obvious to one skilled in the art at the time of invention to use a 2-ply uninterrupted surface as the outer skin of the lattice wing structure taught by Blondin.

With respect to claim 7, wherein some of the flat strips are positioned to face into an aircraft fuselage, as discussed above with respect to claim 1 Blondin/Schijve teaches a laminated lattice structure wherein the flat lands form at least 1 ply with open fields surrounded by said strip shaped lands, however Blondin teaches the use of this structure for wings as opposed to the fuselage. Schijve teaches the use of a sheet metal composite structure for use in an aircraft (col. 2 lines 63-68). Schijve provides a motivation for the composite structure to prevent cracks and for weight saving

Art Unit: 3641

construction, whereas Blondin's lattice structure is "thin" and "extremely resistant to bending, tensional, compressive, torsional and shearing stresses." Therefore it would have been obvious to one skilled in the art at the time of invention to use the Blondin/Schijve structure in an aircraft fuselage to satisfy the combination of stresses as well as to provide a surface that is resistant to cracking.

With respect to claim 8, wherein the lattice has a thickness within the range of 0.5 to 5.0mm, the Blondin/Schijve combination as discussed with respect to claim 1 teaches the claimed invention with the exception of the details concerning the lattice thickness. It would have been obvious to one having ordinary skill in the art at the time the invention was made to pick a range for the lattice of 0.5 to 5.0 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 9, wherein the sheet metal components are selected from the group of alloys of: aluminum, titanium, steel, copper, zinc, or magnesium, Schijve teaches the use of an aluminum-zinc alloy (col. 1, line 68).

Allowable Subject Matter

Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, see attached form PTO-892 for a complete listing of prior art pertaining to composites using lattice type structures.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Radi whose telephone number is 571-272-5883. The examiner can normally be reached on M-F 8-5.

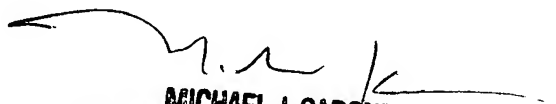
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone can be reached on 571-272-6873. The fax phone

Art Unit: 3641

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John A. Radi
Patent Examiner
Art Unit 3641


MICHAEL J. CARONE
SUPERVISORY PATENT EXAMINER